## **CLAIMS**

5

15

25

30

- A screw pump comprising a chamber defining with first and second externally threaded rotors mounted on respective shafts and adapted for counter-rotation within the chamber a plurality of flow paths having respective fluid inlets.
- 2. A screw pump according to Claim 1, wherein the inlets are located towards or at a common low pressure side of the chamber, and a fluid outlet is located towards or at a common high pressure side of the chamber.
  - 3. A screw pump according to Claim 1 or Claim 2, wherein the inlets are formed in a common surface defining the chamber.
  - 4. A screw pump according to any preceding claim, wherein the inlets are located on a common plane.
- 5. A screw pump according to any preceding claim, wherein the flow paths merge at a fluid outlet of the chamber.
  - 6. A screw pump according to any preceding claim, wherein the flow paths are arranged such that fluid flows along the flow paths in substantially the same direction.
  - 7. A screw pump according to any preceding claim, wherein a first flow path is defined between the internal surface of the chamber and the external surface of the first rotor, and a second flow path is defined between the internal surface of the chamber and the external surface of the second rotor.

WO 2005/071268 PCT/GB2005/000126

-7-

- 8. A screw pump according to any preceding claim, wherein the pressure at one of the inlets during pumping is higher than the pressure at another of the inlets.
- A screw pump according to any preceding claim, comprising a pump body defining said chamber, said body having first and second opposing plates, and wherein the fluid inlets are formed in the first plate and a fluid outlet is formed in the second plate.
- 10. A pumping arrangement comprising a screw pump according to any preceding claim, a first pumping unit having an exhaust connected to a first inlet of the screw pump and a second pumping unit having an exhaust connected to a second inlet of the screw pump.
- 15 11. A pumping arrangement comprising:

20

25

30

12.

a screw pump, the screw pump comprising a body defining a chamber housing first and second externally threaded rotors mounted on respective shafts and adapted for counter-rotation within the chamber, the rotors defining with the body first and second flow paths passing through the chamber, each flow path having a respective fluid inlet located in said body;

a first pumping unit having an exhaust connected to the fluid inlet of the first flow path of the screw pump; and

a second pumping unit having an exhaust connected to the fluid inlet of the second flow path of the screw pump.

A pumping arrangement according to Claim 11, wherein the inlets are located towards or at a common low pressure side of the chamber, and a fluid outlet is located towards or at a common high pressure side of the chamber.

WO 2005/071268 PCT/GB2005/000126

-8-

- 13. A pumping arrangement according to Claim 11 or Claim 12, wherein the inlets are formed in a common surface of the body.
- 14. A pumping arrangement according to any of Claims 11 to 13, wherein the inlets are located on a common plane.

5

- 15. A pumping arrangement according to any of Claims 11 to 14, wherein the flow paths merge at a fluid outlet of the chamber.
- 10 16. A pumping arrangement according to any of Claims 11 to 15, wherein the flow paths are arranged such that fluid flows along the flow paths in substantially the same direction.
- 17. A pumping arrangement according to any of Claims 11 to 16,
  wherein a first flow path is defined between the body and the external surface of the first rotor, and a second flow path is defined between the body and the external surface of the second rotor.
- 18. A pumping arrangement according to any of Claims 11 to 17,
  wherein the pressure at one of the inlets during pumping is higher
  than the pressure at another of the inlets.